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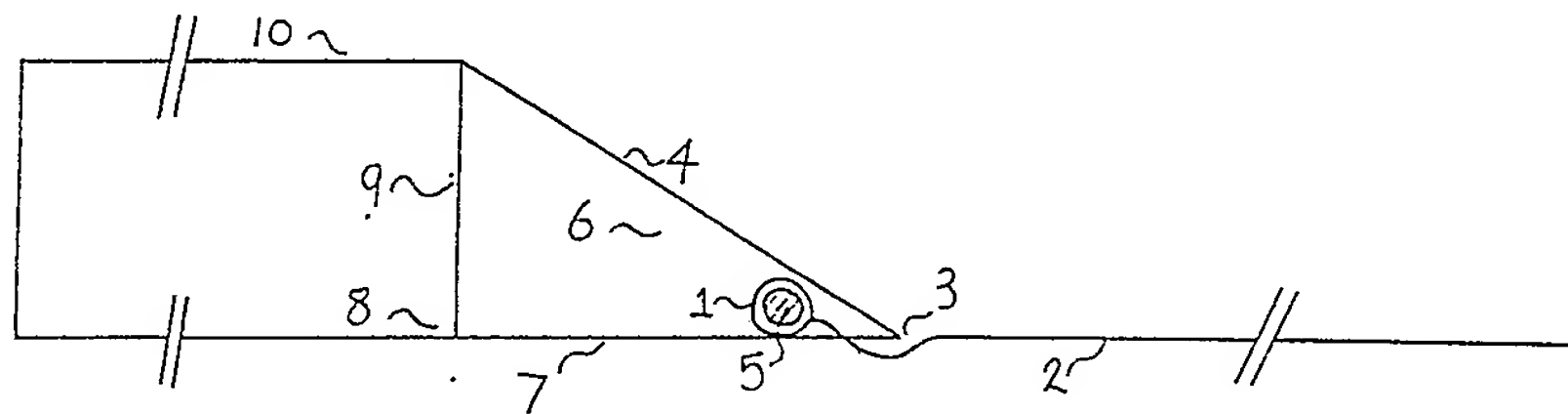
(56) Documents cited
GB A 2096096 GB 0755620
GB 1159755 GB 0489483

(58) Field of search
B8H

(54) Vehicle service ramp restraining device

(57) A vehicle service ramp restraining device utilises a strip (2) of suitable material attached securely to the service ramp and of sufficient length to pass under the rearmost vehicle wheel so that as the vehicle moves towards the ramp, this wheel will pass over and securely restrain the ramp which will then remain stationary. The vehicle may then mount the ramp without occurrence of forward slipping or other dislocation.

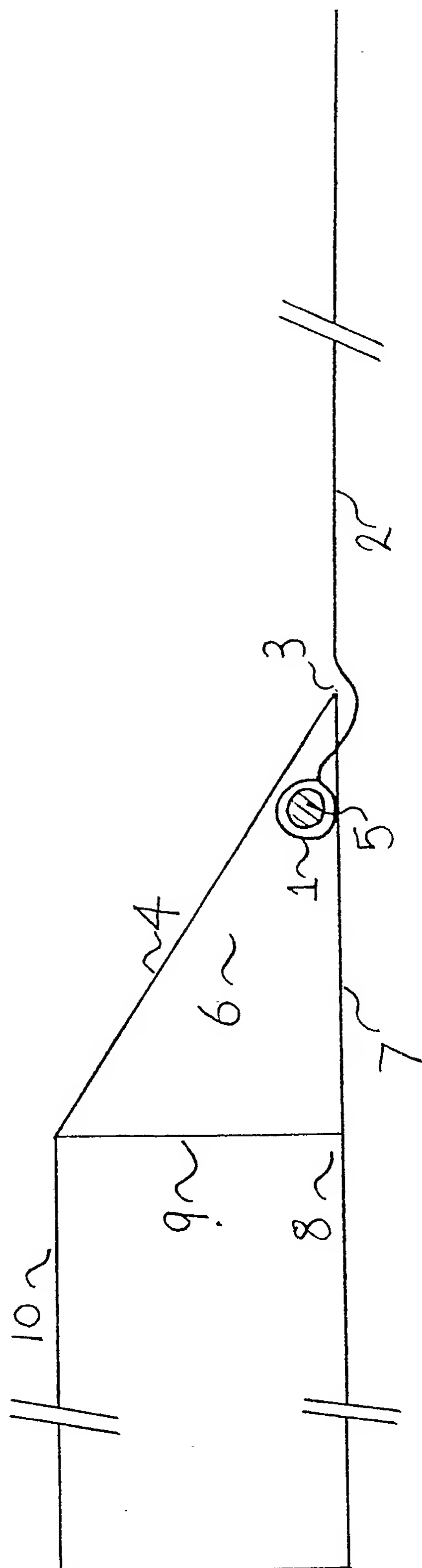
FIG 1



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FIG 1

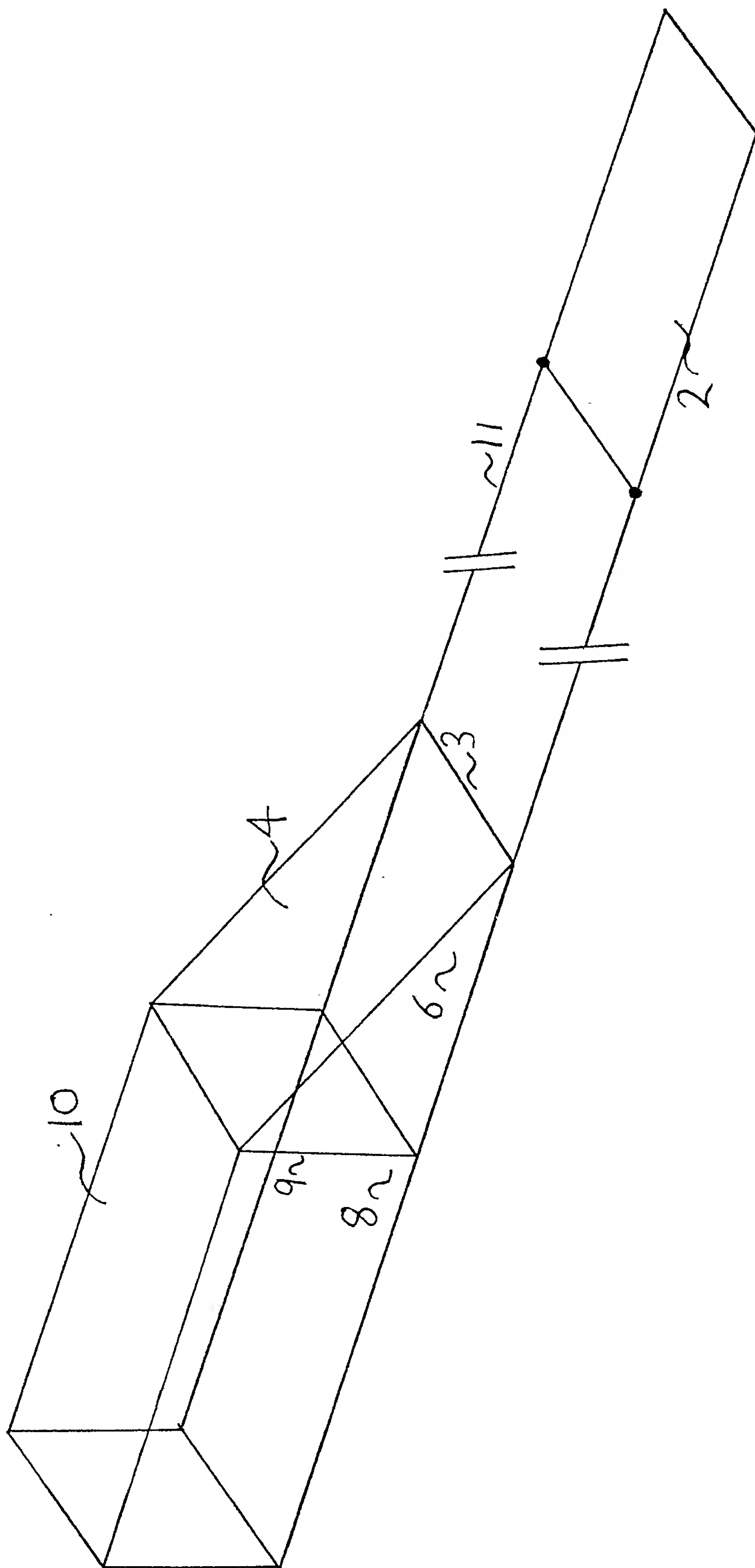
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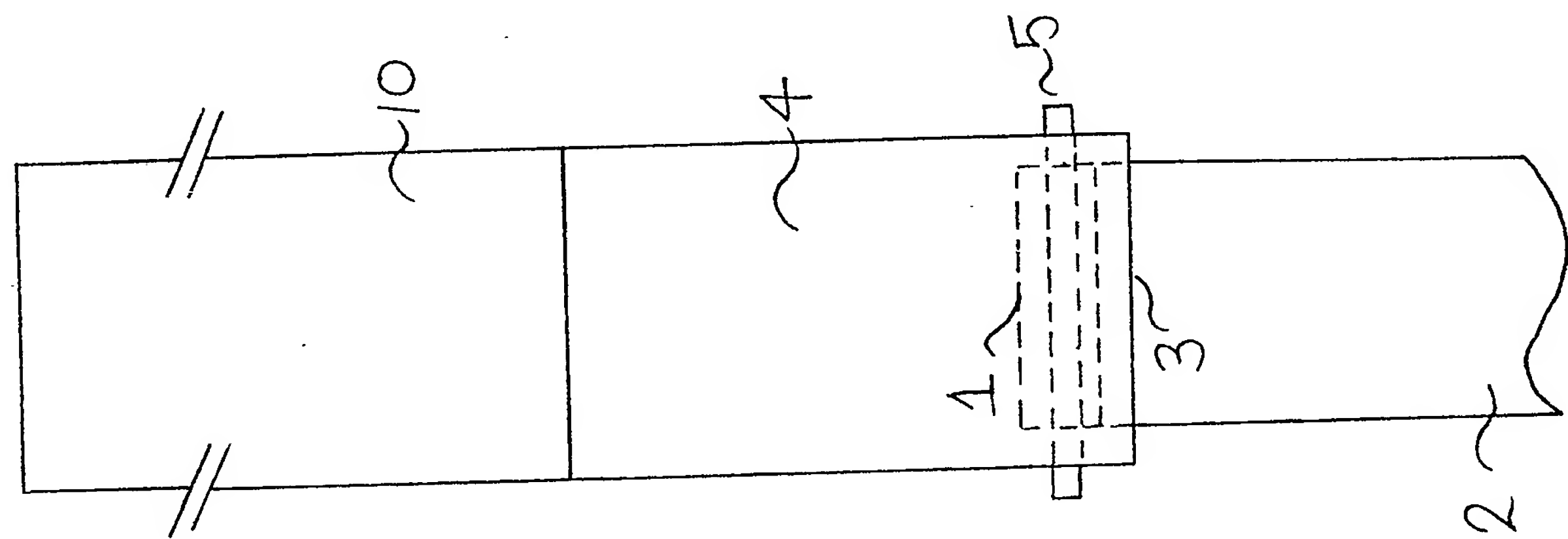
FIG 2

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FIG 3
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SPECIFICATION

Vehicle service ramp restraining device

5 I Douglas Watson of 8 John Street Thurnscoe, near Rotherham, England, a British subject, do hereby declare the invention for which I pray a patent may be granted to me and the method by which it is to be performed, to be particularly described in and
10 by the following statement.

This invention relates to a device which prevents ramps which are used to elevate one end of a vehicle for service or inspection from slipping or being pushed away from the vehicle wheels as the
15 vehicle is driven up the inclined portion of the vehicle service ramps onto the horizontal elevated section.

It is an object of the invention to provide a means to eliminate the forward movement of vehicle service ramps as the vehicle is being driven up
20 the inclined section of the vehicle service ramps.

When work has to be carried out on the underside of a vehicle it is necessary to elevate the vehicle so that easy access is available. There are
25 various ways in which the elevation can be achieved. One particular method employs the use of vehicle service ramps. These are usually of steel construction, the elevated part being parallel to the base which rests on the ground and connected to
30 ground level by an inclined section which is integral to the whole unit. With the vehicle wheels at the bottom of the incline and the vehicle aligned with, and moving in a direction towards, the service ramps, the forward force vector is far greater
35 than the downward force vector created by the movement of the vehicle. As a result of this and also of a low coefficient of friction between the vehicle service ramps and the ground surface material, the vehicle service ramps tend to slide in the
40 same direction as the vehicle is moving. Thus the vehicle cannot easily or safely ascend the inclined section onto the horizontal platform.

This invention overcomes the problem by the use of a strip of suitable material laid on the floor
45 directly in-line with the vehicle service ramp and attached either directly (Figure 1) or by means of a connecting link or links of suitable length (Figure 2).

Referring by reference numbers, Figure 1 shows
50 a profile view of a vehicle service ramp and the methods of securing the strip of suitable material. Figure 2 shows the alternative methods of securing a piece of suitable material to the vehicle service ramps. Figure 3 shows a plan view of a vehicle
55 service ramp with material attached as in Figure 1. In this embodiment a loop (1) of suitable dimensions is sewn at one end of the strip of material (2). In other embodiments the loop (1) could be formed by glueing, rivetting, welding or other suitable techniques. Where a connecting link or links
60 (11) are used it may be of any material of suitable strength such as rope, wire or straps.

The end with the loop (1) is then passed under the front (3) of the inclined part (4) of the vehicle
65 service ramp. In this embodiment (Figure 3) a

dowel (5) or other suitable shape is passed through the loop (1) so that it projects from either end of the loop (1). In other embodiments the
70 dowel (5) or other suitable shape could be made of a metal, wood or a plastic, being suitable with regard to the amount of strength required.

The ends of the dowel (5), or other suitable shape are now located in the area (6) where the inclined section (4) meets the horizontal floor section
75 (7). An alternative location could be at a place (8) where a vertical support member (9) joins with the horizontal floor section (7). In other embodiments the strip of material (2) could be attached to the vehicle service ramp with suitable hooks or other
80 similar means.

The material (2) is now in direct line with the vehicle service ramp. The material (2) is long enough to reach past the vehicle wheel which is not going to ascend the vehicle service ramp. The vehicle is
85 driven along the strip of material (2) so that when the wheel which is to be driven onto the ramp is at the foot of the incline (4) of the vehicle service ramp the other wheel on the same side of the vehicle is resting on the strip of material (2).

When the vehicle is moved in a direction towards the vehicle service ramp the wheel is able to ascend the incline (4) because the forward force vector is being resisted by the rearward force exerted on the strip of material (2) being held by the
90 other vehicle wheel which is on the same side of the vehicle.

In this way a vehicle can be safely driven up the incline (4) of a vehicle service ramp onto the horizontal section (10) without fear of the vehicle service ramp being pushed away.
100

In other embodiments the strip of material (2) could be replaced by an interlinking metal chain link which is secured to the vehicle service ramp by hooks or other similar means, or by bolts, rivets, metal, plastic or wooden dowels or other suitable shapes.
105

The working section of material needs to be at least long enough to always be under the wheel which is not going to ascend the vehicle service ramp whilst the vehicle is driven onto the vehicle service ramp.
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CLAIMS

115 1. A device which prevents the movement of vehicle service ramps during the time of ascent or descent of a vehicle on to or from the elevated horizontal section.

2. A device as claimed in Claim 1 wherein the restraining means is a strip of suitable material.
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3. A device as claimed in Claim 1 or Claim 2 wherein the means of securing the strip of suitable material to the service ramp is by means of a loop at one end of the strip of material, through which
125 passes a suitably shaped rod.

4. A device as claimed in Claims 1 and 2, wherein the means of securing the strip of suitable material to the service ramp is by some other appropriate means.

130 5. A device as claimed in Claims 1, 2, 3, and 4

wherein a strip of material may temporarily be attached by some suitable means to a service ramp.

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